4.(Amended) An electronic component mounting method as claimed in claims 1, wherein

the insulating resin (6m) of the anisotropic conductive layer is in a liquid form when applied to the board, and after semi-solidifying the resin by hardening the liquid of the applied insulating resin with the board placed in a furnace (503) or by pressurizing the liquid of the applied insulating resin by means of a heated tool (78) after the application to the board, the electronic component is mounted on the board.

6.(Amended) An electronic component mounting method as claimed in claim 1, wherein the electronic component (1) has a plurality of electrodes (2), a solid anisotropic conductive film sheet (10) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic component (1) is stuck as the anisotropic conductive layer to the circuit board (4) before the positional alignment and thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic component and the circuit board is hardened by pressurizing the electronic component against the circuit board with heat applied to the anisotropic conductive film sheet (10) while concurrently correcting the warp of the circuit board, so that the electronic component is bonded to the circuit board.

7.(Amended) An electronic component mounting method as claimed in claim 1, wherein the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by means of the capillary that has a chamfer angle (θc) of not greater than 100° when a gold ball (96a) is formed by an electric spark at a tip of a gold wire (95) similarly to the wire bonding in forming the bump on the electronic component and a tip shape provided with no flat portion to be brought in contact with the gold ball.

12.(Amended) An electronic component mounting method as claimed in claim 10, wherein

the device (93, 193) for forming the gold ball (96a) has the capillary, which has a tip shape provided with no flat portion to be brought in contact with the gold ball and of which a chamfer angle (θc) is not greater than 100°, and the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by the capillary.

14.(Amended) An electronic component mounting method as claimed in claim 1, wherein a mean particle diameter of the inorganic filler mixed with the insulating resin of the anisotropic conductive layer is not smaller than 3 μm.

15.(Amended) An electronic component mounting method as claimed in claim 1, wherein the inorganic filler mixed with the insulating resin of the anisotropic conductive

layer is comprised of at least two types of inorganic fillers (6f-1, 6f-2) that have a plurality of different mean particle diameters, and a mean particle diameter of one inorganic filler (6f-1) out of at least two types of inorganic fillers is not less than two times different from a mean particle diameter of the other inorganic filler (6f-2) out of at least two types of inorganic fillers.

16.(Amended) An electronic component mounting method as claimed in claim 1, wherein the anisotropic conductive layer has a portion brought in contact with either the electronic component or the board, the portion having a smaller amount of inorganic filler than that of the other portion.

20.(Amended) An electronic component mounting method as claimed in claim 1, wherein the bump is a bump formed by plating or printing.

21.(Amended) An electronic component unit as claimed in claim 18, wherein the bump is a bump formed by plating or printing.

22.(Amended) An electronic component mounting method as claimed in claim 1, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

23.(Amended) An electronic component mounting apparatus as claimed in claim 10, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler (6f) with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

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24.(Amended) An electronic component unit as claimed in claim 18, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler (6f) with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

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27.(Amended) An electronic component mounting method as claimed in claim 25, wherein

the insulating resin (306m) is an insulative thermosetting epoxy resin, and an amount of the inorganic filler mixed with this insulative thermosetting epoxy resin is 5 to 90 wt% of the insulative thermosetting epoxy resin.

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29.(Amended) An electronic component mounting method as claimed in claim 25, wherein the electronic component (1) has a plurality of electrodes (2), a solid insulating resin sheet (6) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic component (1) is stuck as the insulating resin layer to the circuit board (4) before the positional alignment and

thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic component and the circuit board is hardened while concurrently correcting the warp of the circuit board by pressurizing the electronic component against the circuit board with heat applied to the insulating resin sheet (6), so that the electronic component is bonded to the circuit board.

30.(Amended) An electronic component mounting method as claimed in claim 25, wherein the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by means of the capillary that has a chamfer angle (θc) of not greater than 100° when a gold ball (96a) is formed by an electric spark at a tip of a gold wire (95) similarly to the wire bonding in forming the bump on the electronic component and a tip shape provided with no flat portion to be brought in contact with the gold ball.

36.(Amended) An electronic component mounting method as claimed in claim 25, wherein the inorganic filler mixed with the insulating resin is provided by a plurality of types of inorganic fillers (6f-1, 6f-2), which have different mean particle diameters.

37.(Amended) An electronic component mounting method as claimed in claim 25, wherein the insulating resin layer (6, 306b) has a portion brought in contact with either

A9 cont'd

the electronic component or the board, the portion having a smaller amount of inorganic filler than that of the other portion.

39.(Amended) An electronic component mounting method as claimed in claim 37, wherein the portion brought in contact with the electronic component is provided by an insulating resin that improves adhesion to a film material used on a surface of the electronic component, and the portion brought in contact with the board is provided by an insulating resin that improves adhesion to a material used on a surface of the board.

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40.(Amended) An electronic component mounting method as claimed in claim 25, wherein the insulating resin layer (6, 306b) has a portion brought in contact with either the electronic component or the board, the portion being mixed with no inorganic filler.

43.(Amended) An electronic component mounting method as claimed in claim 5, wherein heating is effected from the upper surface side of the electronic component or from the board side or from both the electronic component side and the board side when metallically bonding the gold bump to the electrode of the board with supersonic waves applied.

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44.(Amended) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 1.

All contd

45.(Amended) An electronic component mounting apparatus as claimed in claim 11, wherein the apparatus for metallically bonding the gold bump to the electrode of the board with supersonic waves applied comprises a heating member for effecting heating from the upper surface side of the electronic component or from the board side or from both the electronic component side and the board side, and the heating is effected by the heating member at a time of metallic bonding.

Add the following new claims:

46.(NEW) An electronic mounting method comprising:

mounting an electronic component (1) on a circuit board (4) while aligning in position an electrode of the electronic component (1) and an electrode (5) of the circuit board (4) in a state in which the electrode (2) of the electronic component (1) has a bump (3, 103) with interposition of an anisotropic conductive layer (10) in which an insulating resin mixed with an inorganic filler is mixed with a conductive particle (10a); and

subsequently bonding the electronic component to the circuit board by hardening the insulating resin of the anisotropic conductive layer interposed between the electronic component and the circuit board while correcting warp of the board with a pressure force applied to the electronic component against the circuit board by means of a tool (8) and heat applied from the electronic component side or heat applied from the board side or heat applied from both the electronic component side and the board side, so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

47.(NEW) An electronic component mounting method comprising:

mounting an electronic component (1) on a circuit board (4) while aligning in position an electrode of the electronic component (1) and an electrode (5) of the circuit board (4) with interposition of a solid or semi-solid insulating resin layer (6,

306b) in which an insulating resin (306m) is mixed with an inorganic filler (6f) without leveling a bump (3, 103) owned by the electrode (2) of the electronic component (1); and

subsequently bonding the electronic component to the circuit board by hardening the insulating resin interposed between the electronic component and the circuit board while correcting warp of the board with a pressure force applied to the electronic component against the circuit board by means of a tool (8) and heat applied from the electronic component side or heat applied from the board side or heat applied from both the electronic component side and the board side, so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

48. (NEW) An electronic component mounting method as claimed in claim 1, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.

49. (NEW) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 47.

50.(NEW) An electronic component mounting method as claimed in claim 5, wherein the electronic component (1) has a plurality of electrodes (2), a solid anisotropic conductive film sheet (10) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic

component (1) is stuck as the anisotropic conductive layer to the circuit board (4) before the positional alignment and thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic component and the circuit board is hardened by pressurizing the electronic component against the circuit board with heat applied to the anisotropic conductive film sheet (10) while concurrently correcting the warp of the circuit board, so that the electronic component is bonded to the circuit board.

51.(NEW) An electronic component mounting method as claimed in claim 5, wherein the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by means of the capillary that has a chamfer angle (θc) of not greater than 100° when a gold ball (96a) is formed by an electric spark at a tip of a gold wire (95) similarly to the wire bonding in forming the bump on the electronic component and a tip shape provided with no flat portion to be brought in contact with the gold ball.

52.(NEW) An electronic component mounting method as claimed in claim 11, wherein

the device (93, 193) for forming the gold ball (96a) has the capillary, which has a tip shape provided with no flat portion to be brought in contact with the gold ball and of which a chamfer angle (θc) is not greater than 100°, and the gold bump that has

an approximately conically shaped tip is formed on the electrode of the electronic component by the capillary.

53.(NEW) An electronic component mounting method as claimed in claim 5, wherein the bump is a bump formed by plating or printing.

54.(NEW) An electronic component mounting method as claimed in claim 8, wherein the bump is a bump formed by plating or printing.

55.(NEW) An electronic component unit as claimed in claim 19, wherein the bump is a bump formed by plating or printing.

56.(NEW) An electronic component mounting method as claimed in claim 5, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

57.(NEW) An electronic component mounting method as claimed in claim 8, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

58.(NEW) An electronic component mounting apparatus as claimed in claim 11, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler (6f) with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

59.(NEW) An electronic component unit as claimed in claim 19, wherein the anisotropic conductive layer is provided by mixing the solid insulating resin mixed with the inorganic filler (6f) with a conductive particle (10a) that has a mean diameter greater than a mean particle diameter of the inorganic filler.

60.(NEW) An electronic component mounting method as claimed in claim 28, wherein the electronic component (1) has a plurality of electrodes (2), a solid insulating resin sheet (6) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic component (1) is stuck as the insulating resin layer to the circuit board (4) before the positional alignment and thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic component and the circuit board is hardened while concurrently correcting the warp of the circuit board by pressurizing the electronic component against the circuit board with heat applied to the insulating resin sheet (6), so that the electronic component is bonded to the circuit board.

61.(NEW) An electronic component mounting method as claimed in claim 28, wherein the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by means of the capillary that has a chamfer angle (θc) of not greater than 100° when a gold ball (96a) is formed by an electric spark at a tip of a gold wire (95) similarly to the wire bonding in forming the bump on the electronic component and a tip shape provided with no flat portion to be brought in contact with the gold ball.

62.(NEW) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 5.

63.(NEW) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 8.

64.(NEW) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 25.

65.(NEW) An electronic component unit, wherein the electronic component is mounted on the board by the electronic component mounting method claimed in claim 28.

66.(NEW) An electronic component mounting apparatus as claimed in claim 34, wherein the apparatus for metallically bonding the gold bump to the electrode of the board with supersonic waves applied comprises a heating member for effecting heating from the upper surface side of the electronic component or from the board side or from both the electronic component side and the board side, and the heating is effected by the heating member at a time of metallic bonding.

67.(NEW) An electronic component mounting method as claimed in claim 5, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.

68.(NEW) An electronic component mounting method as claimed in claim 8, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.

69.(NEW) An electronic component mounting method as claimed in claim 25, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.

70.(NEW) An electronic component mounting method as claimed in claim 28, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.

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71.(NEW) An electronic component mounting method as claimed in claim 31, wherein the inorganic filler is constructed of ceramics of spherical or pulverized silica, alumina, or the like.